

ABSTRACT

A substrate processing apparatus 10 including a vapor generating unit 37₁ which generates a mixed gas consisting of an organic solvent vapor and an inert gas by bubbling the inert gas in the organic solvent; support means for supporting a plurality of substrates to be vertically arranged in parallel at equal pitches; a processing vessel 15 which accommodates multiple substrates supported by the support means; a lid 30 for covering the upper opening of the processing vessel; jet nozzles 33 provided in the lid 30; and first piping 37₁₂, 34₂, 34₂₁, and 34₂₂ which causes the vapor generating unit and the jet nozzles to communicate with each other. In the substrate processing apparatus 10, the first piping and the jet nozzles are respectively equipped with heaters, and the heaters are controlled by means of dry gas containing organic solvent mists of submicron size being emitted from the jet nozzles. According to the invention, Since micro-size organic solvent vapor is used, the substrate processing method and apparatus of the invention ensures not only high-quality surface processing but also the reduction of processing time.